UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _29 June 2009_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-21_ is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-21_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _24 May 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   The office action is in reply to an amendment filed on June 29, 2009. Claims **1-21** are pending.

Response to Amendment

2.   The office action is in reply to an amendment filed on June 29, 2009. Claims **1-21** have been amended,

no claim has been canceled and no new claims have been added.

Response to Arguments

3.   Applicant's argue with respect to Independent claim **1** and **16** which is an apparatus implementation of

the method claim 1 and comprises all the element of claim 1, is that Li does not close "creating an individual

QoS resource list in each edge router to record a resource state corresponding to a path; said each edge

router assigning a resource to a user terminal which makes a request based on said QoS resource list and

updating the list"

   Li discloses about adding the edge router ID of each passed QoS domain in the edge router list of the

resource request message and storing the edge router list in the QoS edge router connected with the

destination terminal (See Page 3; Para. 0040- 0044).

   Li also discloses that the QoS edge router which receives the resource allocation message from the

source terminal, determines the resource e allocation path according to the stored edge router list,

transmits the resource allocation message for the data flow along the determined resource allocation path

and finally the edge router list is updated by attaching the edge router list stored in the QoS edge router to

said resource allocation message (See Page 3; Para. 0040-0046).

Applicant's arguments with respect to Independent claims **6 and 12** have been fully considered and are

persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new

ground(s) rejection is made and shown below.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the

rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States
   before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States
   before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a)
   shall have the effects for purposes of this subsection of an application filed in the United States only if the international application
   designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   **Claims 1-3, 5, 16-18 & 20-21** are rejected are under 35 U.S.C. 102(e) as being anticipated by Li et al

(hereinafter referred as Li) US Publication No. 2006/0182119 A1.

8.   **As per claims 1:** Li discloses a method/device *(Edge Router)* for realizing QoS guarantee in a MPLS

network having a number of edge routers, comprising: creating an individual QoS resource list in each edge

router to record resource state corresponding to a path *(See Page 3; Para. 0040- 0044, Li discloses about*

adding the edge router ID of each passed QoS domain in the edge router list of the resource request

message and storing the edge router list in the QoS edge router connected with the destination terminal);

said each edge router assigning resources to a user terminal which makes a request based on said QoS

resource list and updating the QoS resource list *(See Page 3; Para. 0040-0046, the QoS edge router which*

receives the resource allocation message from the source terminal, determines the resource e allocation

path according to the stored edge router list, transmits the resource allocation message for the data flow

along the determined resource allocation path. Finally the edge router list is updated).

9.   **As per claim 2:** Li discloses a method characterized in that the resource states of the paths from the

edge router to all the other edge routers in the same domain are recorded in said QoS resource list *(See page*

5; Para. 0100).

10.   **As per claim 3:** Li discloses a method characterized in that the step of creating a QoS resource list

further comprises pre-configuring LSPs based on service class to set different LSPs for different service

classes *(See Li; Page 1; Para. 0010)*; said edge router obtaining resource information of the path from the

edge router to each of the other edge routers in the same domain based on LSP resource state information

and route information of said MPLS network, and saving the resource information in the QoS resource list

(See Page 2; Para. 0029).

11.   **As per claim 5:** Li discloses a method characterized in that said QoS resource list at least includes

information of the egress edge router, service class, LSP resources and available resources *(See Page 2;*

Para. 0010).

12.   **As per claim 16:** Claim 16 is rejected as the same reasoning as independent claim 1.

13.   **As per claim 17:** Claim 17 is rejected as the same reasoning as dependent claim 2.

14.   **As per claim 18:** Li discloses a method further including a route list and a MPLS list based on which

said QoS resource list is created and corresponds to LSP resource state of the MPLS network *(See Page 8;*

Para. 0179).

15.   **As per claim 20:** Li discloses a method characterized in that said QoS resource list at least includes

information of the egress edge router, service class, LSP resources and available resources *(See Page 8;*

Para. 0179).

16.   **As per claim 21:** Claim 21 is rejected as the same reasoning as independent claim 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary
skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the
invention was made.

17.   **Claims 6-7 & 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Li, in view of Rabie

et al   (hereinafter referred as Rabie) US Publication No. 2003/0076829 A1.

18.   **As per claim 6:** Li discloses a method for establishing a QoS data path in a MPLS network, including: a

user terminal sending a QoS resource request to an ingress edge router *(See Page 3; Para. 0040, Li discloses*

about a source terminal transmitting a resource request message to the ingress edge router of the data flow

to be transmitted); said edge router determining information of a path to an egress edge router of the QoS

resource request *(See Page 3; Para. 0044, Li discloses that the QoS edge router which receives the resource*

allocation message from the source terminal, determines the resource allocation path according to the

stored edge router list, transmits the resource allocation message for the data flow along the determined

resource allocation path); when the resource request is determined to be accessed, updating said QoS

resource list *(See Page 3; Para. 0047 & 0049, if there are enough resources to be allocated, the edge router*

perform resource allocation, removing the edge router list from the resources allocation message).

Li does not explicitly teach said ingress edge router determining whether the resource request is accessed or

rejected based on comparing available resources corresponding to the path of recorded in said QoS resource

list with bandwidth requested in said resource request.

However, Rabie discloses said ingress edge router determining whether the resource request is accessed or rejected based on comparing available resources corresponding to the path of recorded in said QoS resource list with bandwidth requested in said resource request *(See Rabie; Page 3: Para. 0041, the service category requested can be supported by comparing the available bandwidth for the link/pool with the calculated reserved bandwidth.*

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Li within Matsubara method in order to result in an optimal route through the network that satisfies the bandwidth requirement *(See Rabie; Page 3; Para. 0039).*

19. **As per claim 7:** the combination of Li & Rabie disclose a method characterized in that the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list *(See Li; page 5; Para. 0100).*

20. **As per claim 10:** the combination of Li & Rabie disclose a method characterized in that the step of updating the QoS resource list further includes: subtracting the bandwidth resources requested in said QoS resource request from the available resources of the corresponding requested resources in said QoS resource list *(See Li; Page 3; Para 0049).*

21. **As per claim 11:** the combination of Li & Rabie disclose a method characterized in that said QoS resource list at least includes information of the egress edge router, service class, LSP resources and available resources *(See Li; Page 2; Para. 0010).*

22. **Claims 12-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurose et al. (hereinafter referred as Kurose) US Publication No. 2003/0084089 A1, in view of Li.

23. **As per claim 12:** Kurose discloses a method for terminating QoS data transmission in a MPLS network, including: an ingress edge router receiving a resource releasing request from a user terminal *(See FIG. 1 & Page 4; Para 0091-0093, the user terminal transmit a request to the ingress router to request a communication resource resservbility)*; said ingress edge router releasing the resources occupied by said user terminal *(See Kurose; Para. 0141, when it's determined that the data are the resource release requests, the reserver releases the communication resource of the ingress router)*.

Kurose fails to disclose said ingress edge router modifying its QoS resource list which records resource state corresponding to a path.

However, Li discloses said ingress edge router modifying its QoS resource list which records resource state corresponding to a path (See Li Page 8; Para. 0172-0174, Li discloses if the resources are not enough, returning a request failure message; otherwise adding R1 ID in the QER list of the resource request message).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Kurose within Li method in order to reduce flow state information maintained at the network nodes as well as overhead of signaling processing and storage at the network nodes (See Li; abstract).

24. **As per claim 13:** the combination of Kurose and Li disclose a method characterized in that the resource states of the paths from the edge router to all the other edge routers in same domain are recorded in said QoS resource list *(See Li; page 2; Para. 0029)*.

25. **As per claim 14:** the combination of Kurose and Li disclose a method characterized in that the step of modifying the QoS resource list further includes: adding corresponding amount to available QoS resources

corresponding to an egress edge router of said QoS data transmission in the QoS resource list *(See Li; Page 8; Para. 0172)*.

26. **As per claim 15:** the combination of Kurose and Li disclose a method characterized in that said QoS resource list at least includes information of the egress edge router, service class, LSP resources and available resources *(See Li; Page 2; Para. 0022)*.

27. **Claim 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsubara et al. (hereinafter referred as Matsubara) US Patent No. 7, 215, 640 B2, in view of Li.

28. **As per claim 4:** Matsubara discloses a method characterized in that the step of assigning resources to a user terminal which makes a request further comprises: edge router searching said QoS resource list for available information of the requested resources based on an egress edge router in said resource request *(See Matsubara Col 6; lines 50-53);* said edge router determining whether the resource request is accessed or rejected based on the available information of said requested resources *(See Matsubara Col 6; lines 53-63);* when the resource request is determined to be accessed, modifying the available information of the requested resources in said QoS resource list and sending an acknowledgement message to said user terminal *(See Matsubara Col 11; lines 30-33)*.

Matsubara fail to explicitly disclose said edge router receiving a resource request from the user terminal.

However, Li discloses edge router receiving a resource request from the user terminal (See Li; Col3; Para. 0040).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the teaching method of Matsubara within Li method in order to reduce flow state information maintained at the network nodes as well as overhead of signaling processing and storage at the network nodes (See Li; abstract).

29. **Claims 8-9 & 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Li, in view of Rabie et

al (hereinafter referred as Rabie) US Publication No. 2003/0076829 A1, in further view of Matsubara.

30. **As per claim 8:** the combination of Li and Rabie disclose all the limitation of independent claim 6

except comparing available resources of the requested resources in said QoS resource list with bandwidth

resources requested in said resource request; if said available resources are less than said bandwidth

resources, sending a message of rejecting access to said user terminal, otherwise allowing said user terminal

to access.

However, Matsubara discloses comparing available resources of the requested resources in said QoS

resource list with bandwidth resources requested in said resource request *(See Matsubara Col 6; lines 64-67)*;

if said available resources are less than said bandwidth resources, sending a message of rejecting access to

said user terminal, otherwise allowing said user terminal to access *(See Matsubara Col 7; lines 15-21)*.

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made

to employ the teaching method of Li & Rabie within Li method in order to reduce flow state information

maintained at the network nodes as well as overhead of signaling processing and storage at the network

nodes *(See Li; abstract)*.

31. **As per claim 9:** the combination of Li, Rabie and Matsubara disclose a method characterized in that

the step of allowing the user terminal to access further includes: when the resource request is not cross-

domain, said edge router sending the resource request to a destination user terminal in said resource request

and waiting for an acknowledgement message from the destination user terminal *(See Li Page 8; Para.

0178)*; when the resource request is cross-domain, searching for a domain which is close to the destination

user terminal in said resource request and has available resources larger than said bandwidth resources,

sending the resource request to an edge router of the domain and waiting for an acknowledgement message

from the edge router of the domain *(See Li Page 8; Para. 0175)*; after receiving the acknowledgement message, said edge router sending the acknowledgement message to said user terminal; and after receiving the acknowledgement message, said user terminal starts the data transmission *(See Matsubara Col 11; lines 30-33)*.

32. **As per claim 19:** the combination of Li, Rabie and Matsubara disclose a method further including a data transmission unit which, under the control of said access and resource control unit, performs operations such as classifying, marking, queuing and scheduling etc. on data transmitted by the user terminal *(See Matsubara FIG 5. step 178)*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mewale Ambaye whose telephone number is (571) 270-7634. The examiner can normally be reached on M - F, 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reach on (571) 272-7872. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from their Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

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If you would like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (In USA or Canada) or 571-272-1000.

/M. A. /

Examiner, Art Unit 2472

/William Trost/

Supervisory Patent Examiner, Art Unit 2472